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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/943,578	08/31/2001	Masakazu Funahashi	OHTN:004	9438

7590 12/19/2002

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EXAMINER

THOMPSON, CAMIE S

ART UNIT	PAPER NUMBER
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1774

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DATE MAILED: 12/19/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Applicati n No.

09/943,578

Applicant(s)

FUNAHASHI ET AL.

Examiner

Camie S Thompson

Art Unit

1774

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**P r i d f r Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Pri rity under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

**DETAILED ACTION*****Claim Rejections - 35 USC § 102***

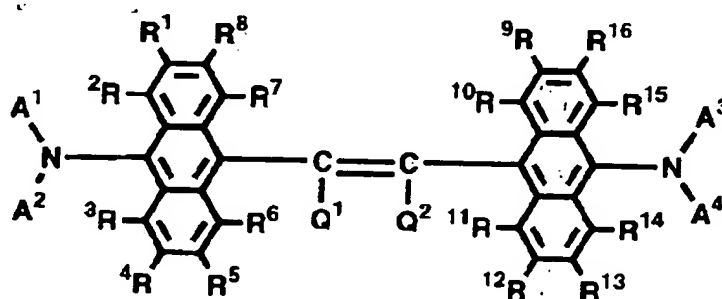
1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-8 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 11-008068.

The Japanese reference discloses an electroluminescence element used for flat-surface light source or a display that comprises a pair of electrodes and a film of organic compounds which is disposed between the pair of electrodes and comprises two or more layers comprising a luminous layer wherein the luminous layer comprises a styryl compound with the formula listed below as per instant claims 1, 2, 5 and 6 (see reference claims 1, 2 and 7).



The styryl compound identified in the reference reads on the instant claims 1 and 2 of the present application in that  $R^1, R^2, R^4, R^5, R^6, R^7, R^9, R^{10}$  can be bonded to each other and form a

Art Unit: 1774

saturated or unsaturated carbon ring as shown in the reference claim 1. Additionally, A<sup>1</sup> to A<sup>4</sup> in the reference read on the A-D and A'-D' as shown in reference claims 1 and 2 where A-D and A'-D' independently represent substituted or unsubstituted aryl groups. The Japanese reference also discloses that at least one of the layers of the film of organic compounds comprises the styryl compound listed above as per instant claims 3 and 4 (see reference claims 1, 2 and 6). JP 11-008068 claims 1, 2, 9 and 10 disclose that the electroluminescence device mentioned above comprises a light emitting layer wherein an electron injecting layer or a hole-injection layer comprise the styryl compound disclosed above as per instant claims 7 and 8.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

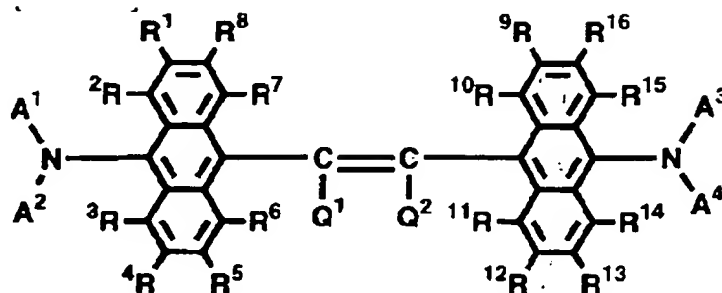
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 11-008068 in view of Araki et al., U.S. Patent Number 6,489,045.

The Japanese reference discloses an electroluminescence element used for flat-surface light source or a display that comprises a pair of electrodes and a film of organic compounds which is disposed between the pair of electrodes and comprises two or more layers comprising a luminous

Art Unit: 1774

layer wherein the luminous layer comprises a styryl compound with the formula listed below as per instant claims 1, 2, 5 and 6 (see reference claims 1, 2 and 7).



The styryl compound identified in the reference reads on the instant claims 1 and 2 of the present application in that R¹, R², R⁴, R⁵, R⁶, R⁷, R⁹, R¹⁰ can be bonded to each other and form a saturated or unsaturated carbon ring as shown in the reference claim 1. Additionally, A¹ to A⁴ in the reference read on the A-D and A'-D' as shown in reference claims 1 and 2 where A-D and A'-D' independently represent substituted or unsubstituted aryl groups.

The reference does not disclose an inorganic layer disposed between the light emitting layer and the electrode as per instant claims 9 and 10. Araki teaches an organic electroluminescence device comprising a pair of electrodes and at least one organic compound layer disposed therebetween as per instant claims 1 and 2 (see column 2, lines 52-54). Araki also teaches that the light-emitting layer of the EL device may have electron-transporting or hole-injecting capabilities and the light-emitting material may be a styryl compound as per instant claims 5 and 6 (see column 4, line 53-column 5, line 16). Additionally, the Araki reference teaches that a thin layer of lithium fluoride may be interposed between the electron-transporting layer and the

Art Unit: 1774

negative electrode as per instant claims 9 and 10 (see column 6, lines 21-24). It would have been obvious to one of ordinary skill in the art to use a layer of inorganic material disposed between the light emitting layer and the electrode in order to prevent moisture or oxygen from getting through as shown by Araki in column 6, lines 45-64.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Camie S. Thompson whose telephone number is (703) 305-4488. The examiner can normally be reached on Monday through Friday from 7:30 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H. Kelly, can be reached at (703) 308-0449. The fax phone numbers for the Group are (703) 872-9310 {before finals} and (703) 872-9311 {after finals}.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.

CYNTHIA H. KELLY  
SUPERVISOR / PATENT EXAMINER  
TECHNOLOGY CENTER 1700

